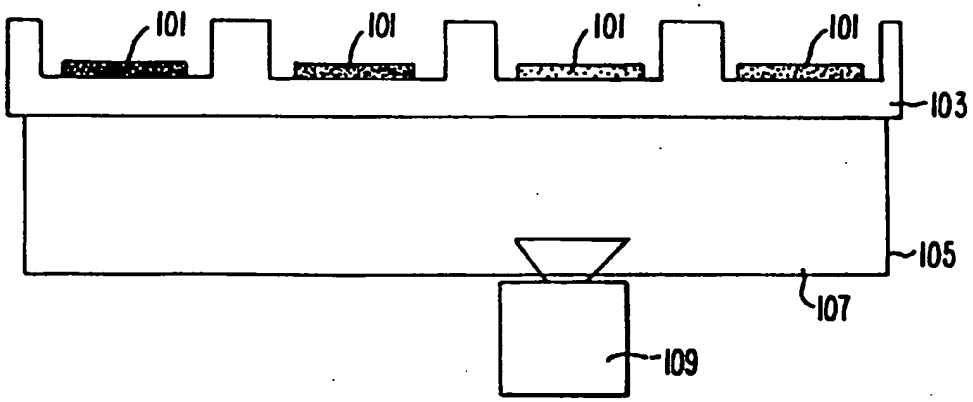

101
101
101
101
103
105
107
109

FIG. 1.

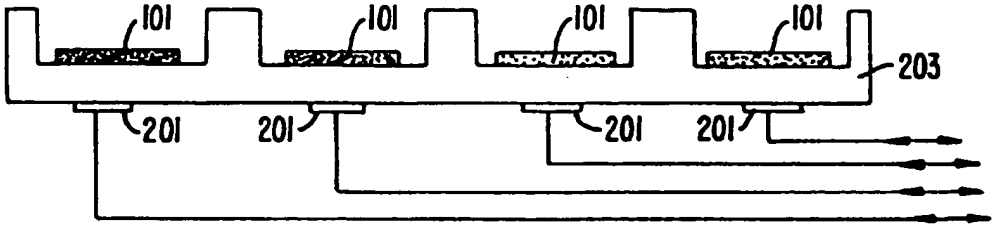

101
101
101
101
203
201
201
201
201

FIG. 2.

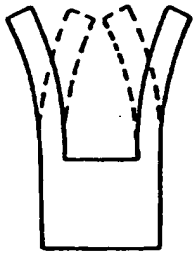
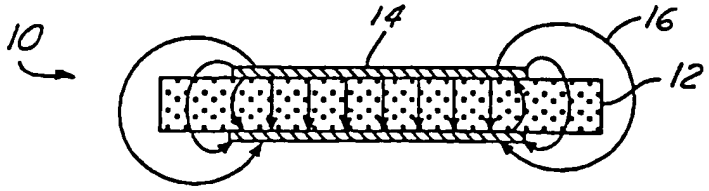


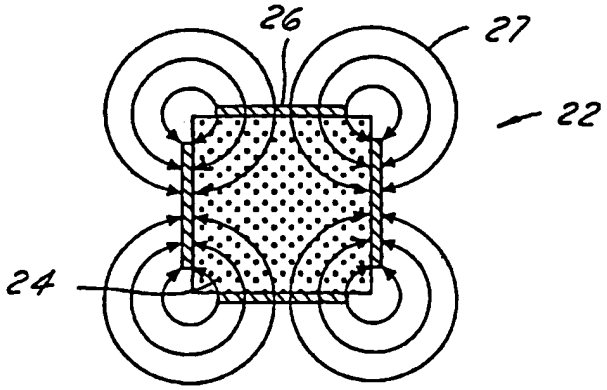
FIG. 3.

FIG. 4.



CROSS-SECTION OF TSM RESONATOR PLATE

FIG. 5 a



CROSS-SECTION OF TUNUNG FORK TINE

FIG. 5 b

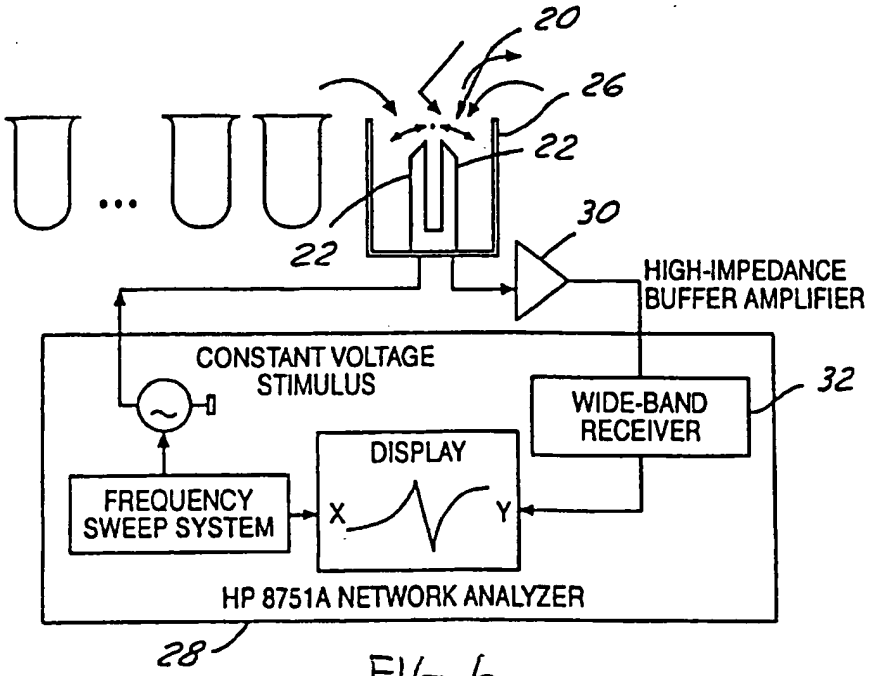


FIG 6

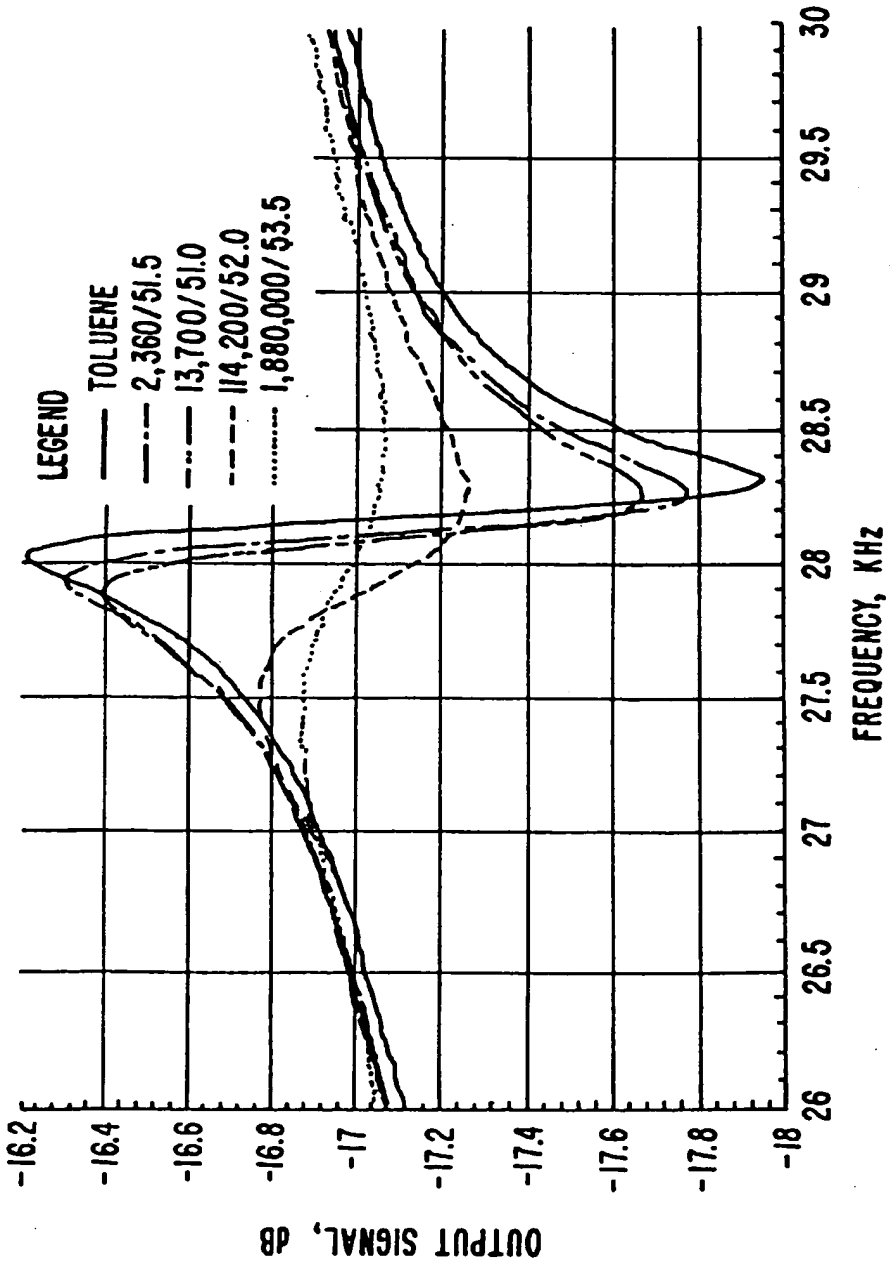

LEGEND
TOLUENE
2,360/51.5
13,700/51.0
114,200/52.0
1,880,000/53.5
OUTPUT SIGNAL, dB
-16.2
-16.4
-16.6
-16.8
-17
-17.2
-17.4
-17.6
-17.8
-18
26
26.5
27
27.5
28
28.5
29
29.5
30
FREQUENCY, KHz

FIG. 7

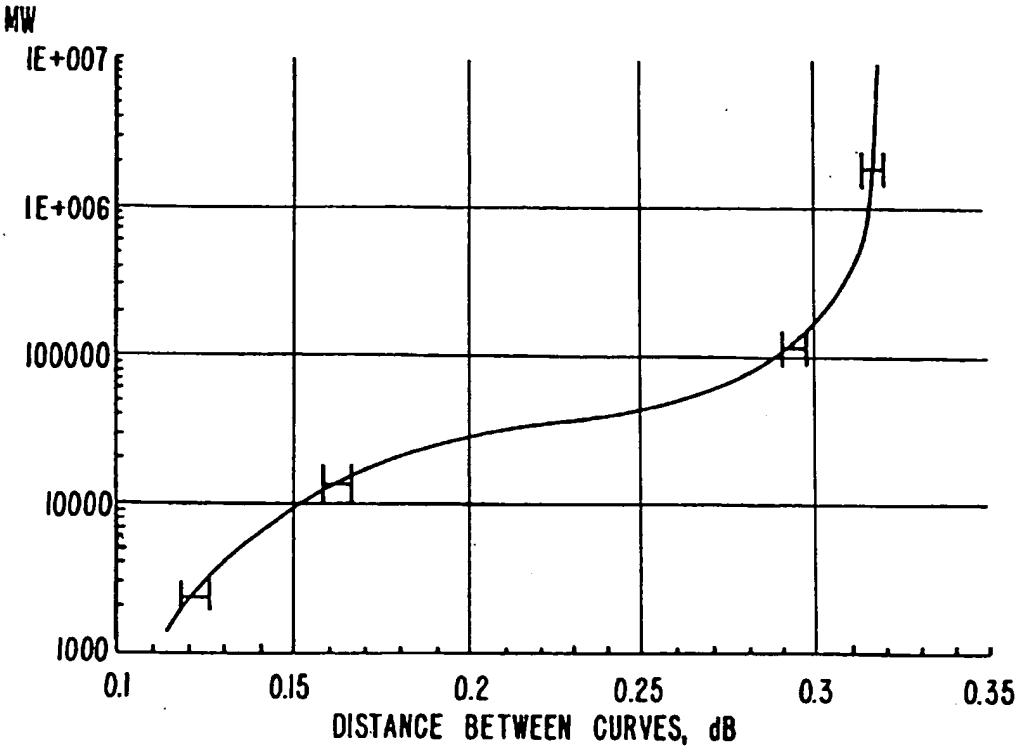

MW
1E+007
1E+006
100000
10000
1000
0.1
0.15
0.2
0.25
0.3
0.35
DISTANCE BETWEEN CURVES, dB

FIG 8

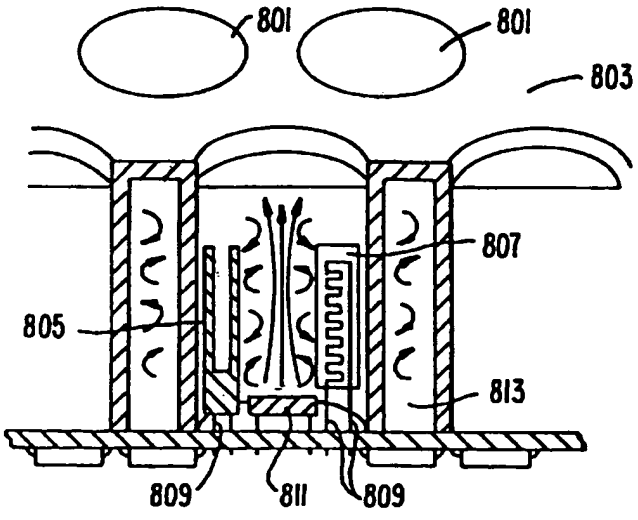

801
801
803
807
805
813
809
811
809

FIG 10

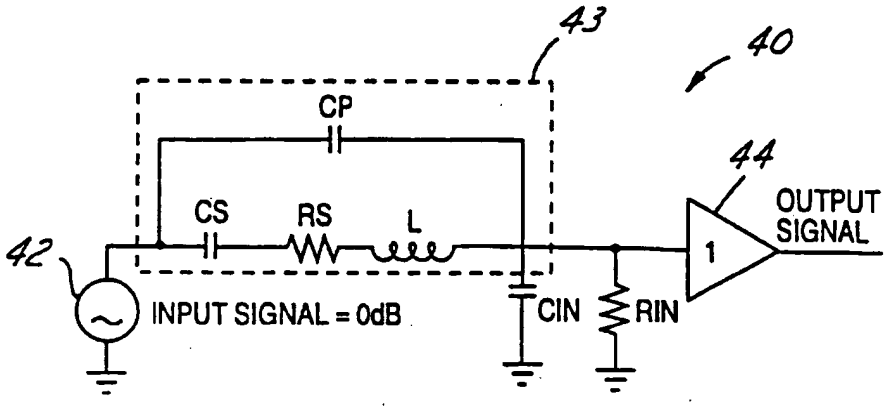

43
40
CP
44
CS
RS
L
OUTPUT
SIGNAL
42
1
INPUT SIGNAL = 0dB
CIN
RIN

FIG 9a

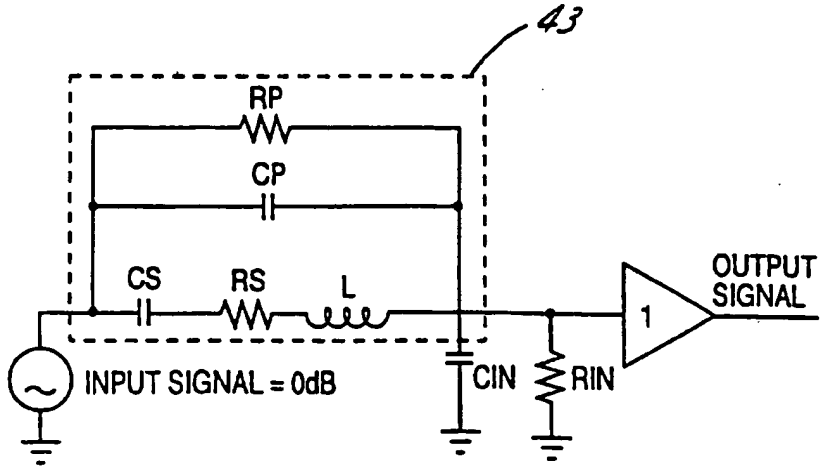

43
RP
CP
CS
RS
L
OUTPUT
SIGNAL
1
INPUT SIGNAL = 0dB
CIN
RIN

FIG 9b

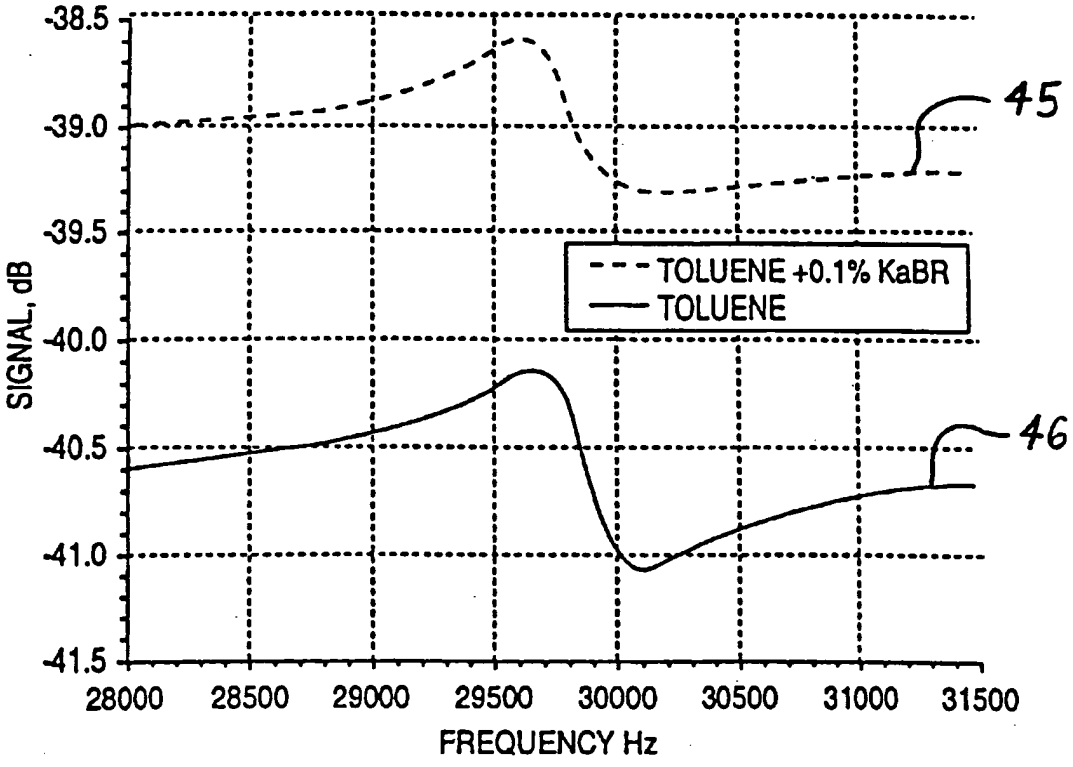

-38.5
-39.0
-39.5
-40.0
-40.5
-41.0
-41.5
SIGNAL, dB
28000
28500
29000
29500
30000
30500
31000
31500
FREQUENCY Hz
TOLUENE +0.1% KaBR
TOLUENE
45
46

FIG 9c

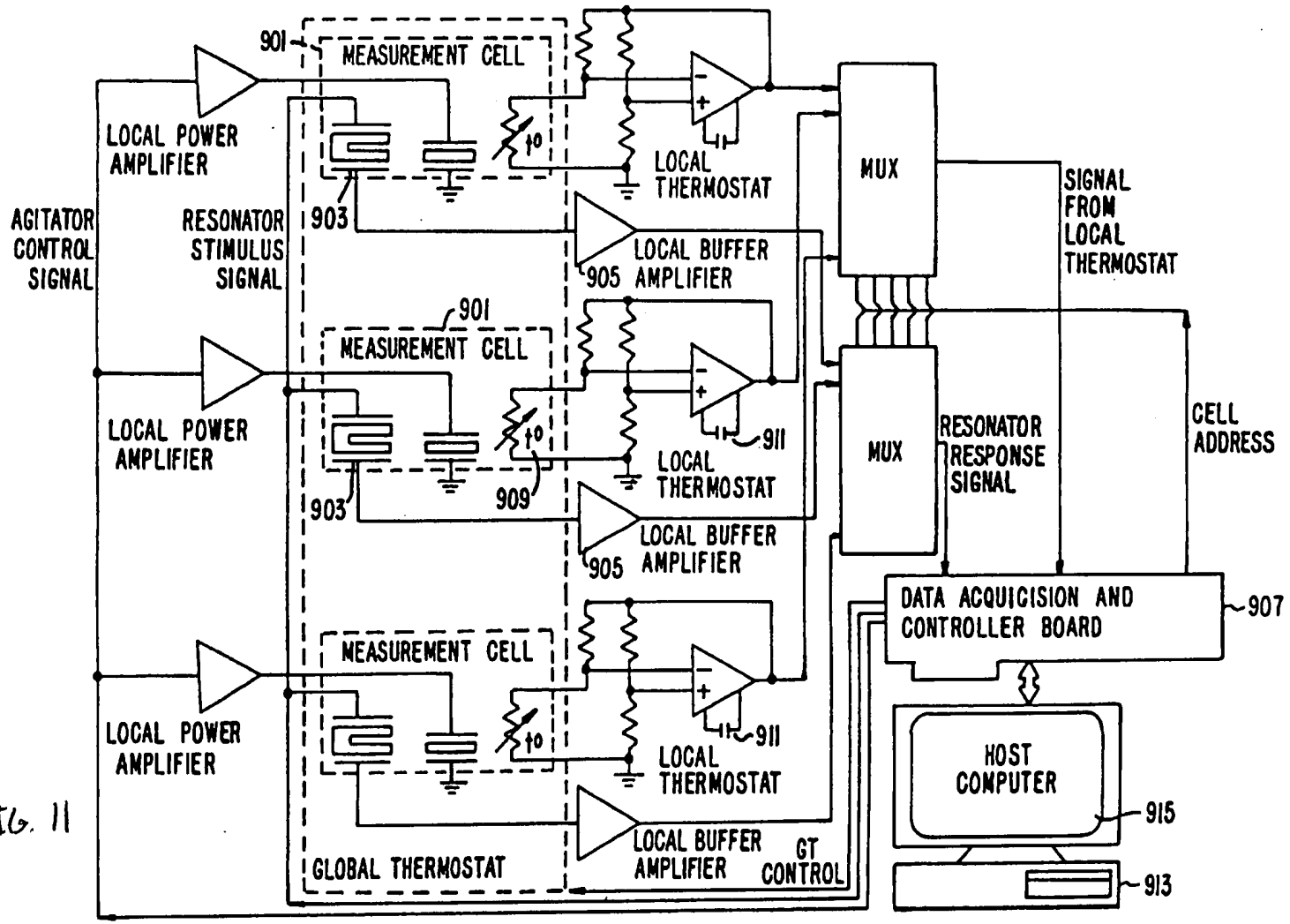

901
MEASUREMENT CELL
LOCAL POWER AMPLIFIER
AGITATOR CONTROL SIGNAL
RESONATOR STIMULUS SIGNAL
903
LOCAL THERMOSTAT
LOCAL BUFFER AMPLIFIER
905
MUX
SIGNAL FROM LOCAL THERMOSTAT
911
909
RESONATOR RESPONSE SIGNAL
CELL ADDRESS
DATA ACQUICISION AND CONTROLLER BOARD
907
HOST COMPUTER
915
913
GLOBAL THERMOSTAT
GT CONTROL

FIG. 11

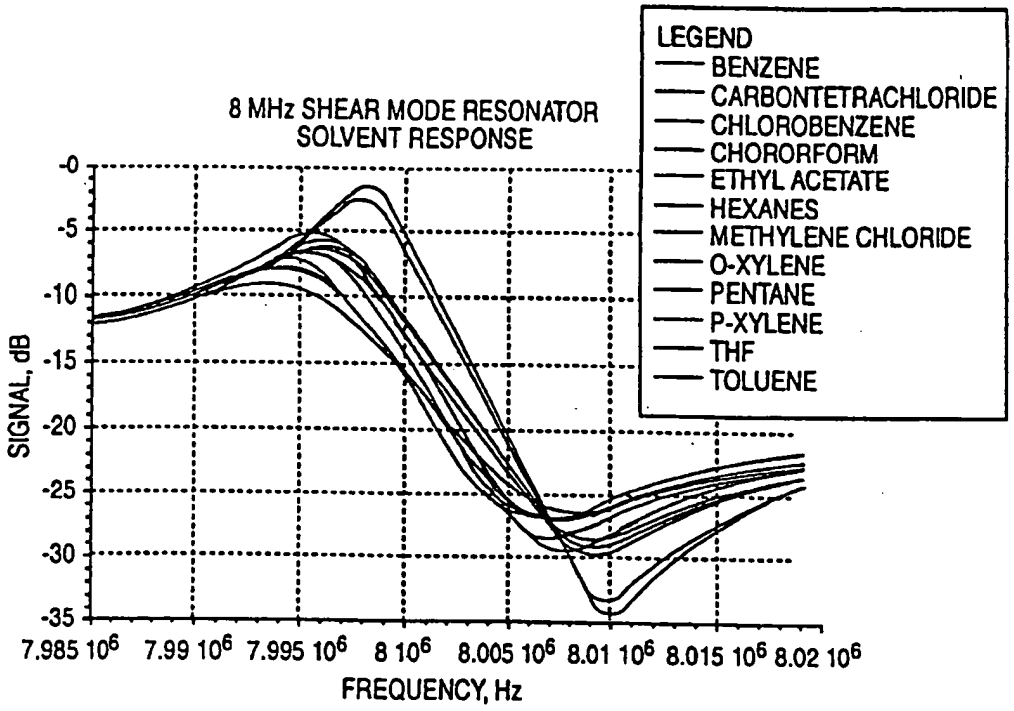


FIG 12a

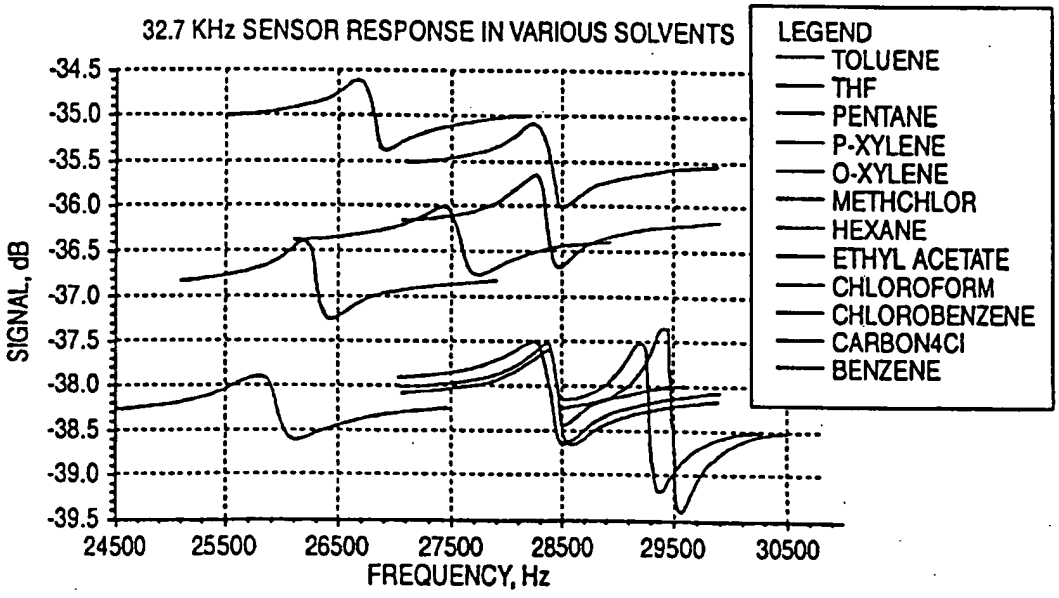


FIG 12b

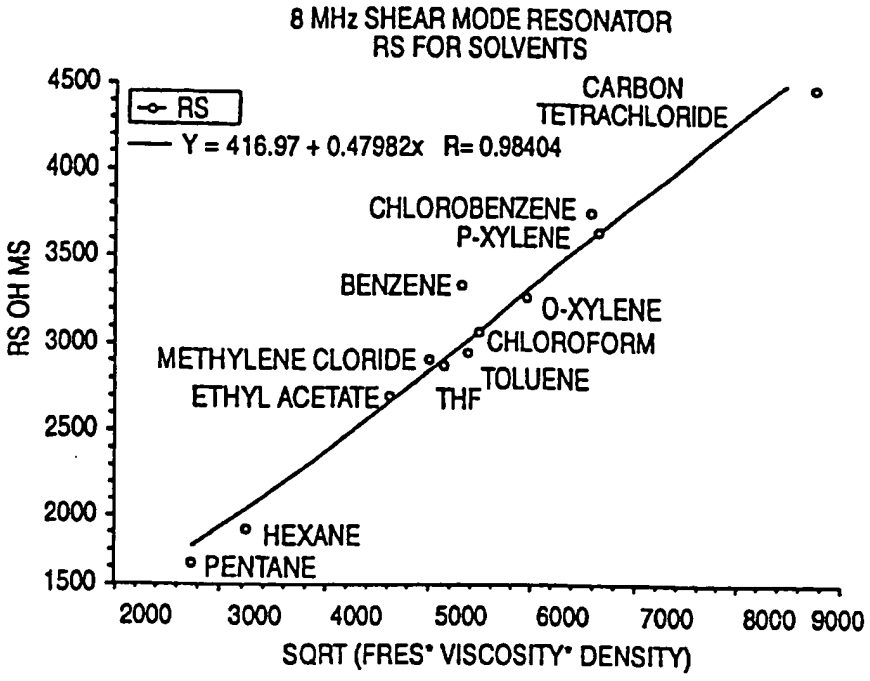


FIG 13a

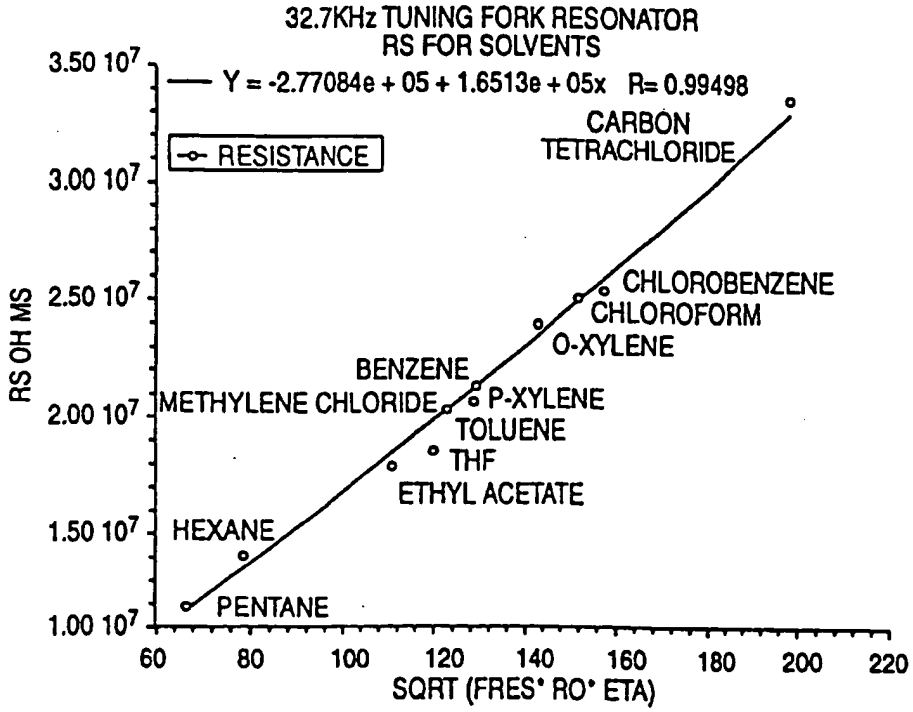


FIG 13b

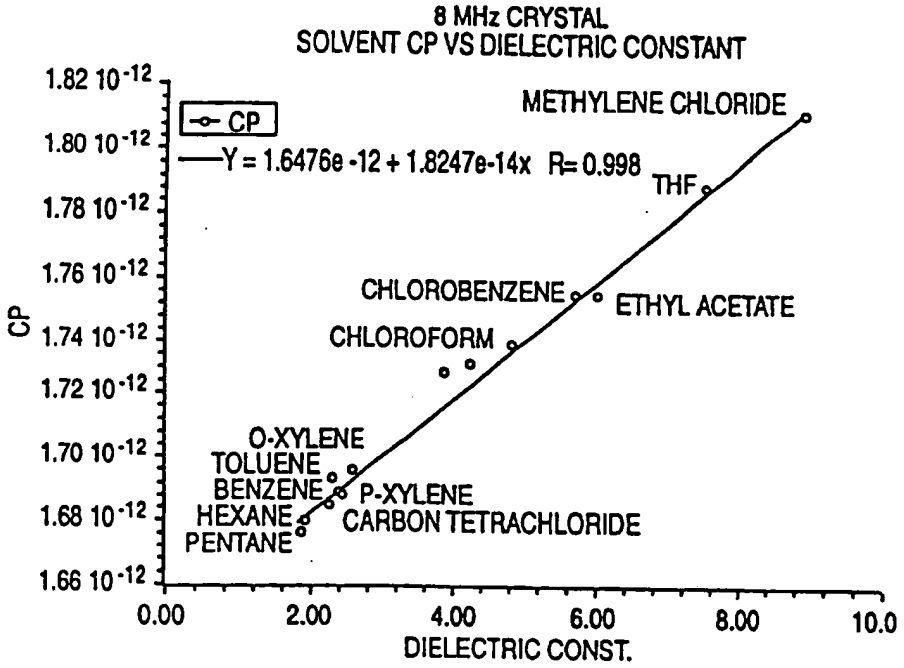


FIG 14a

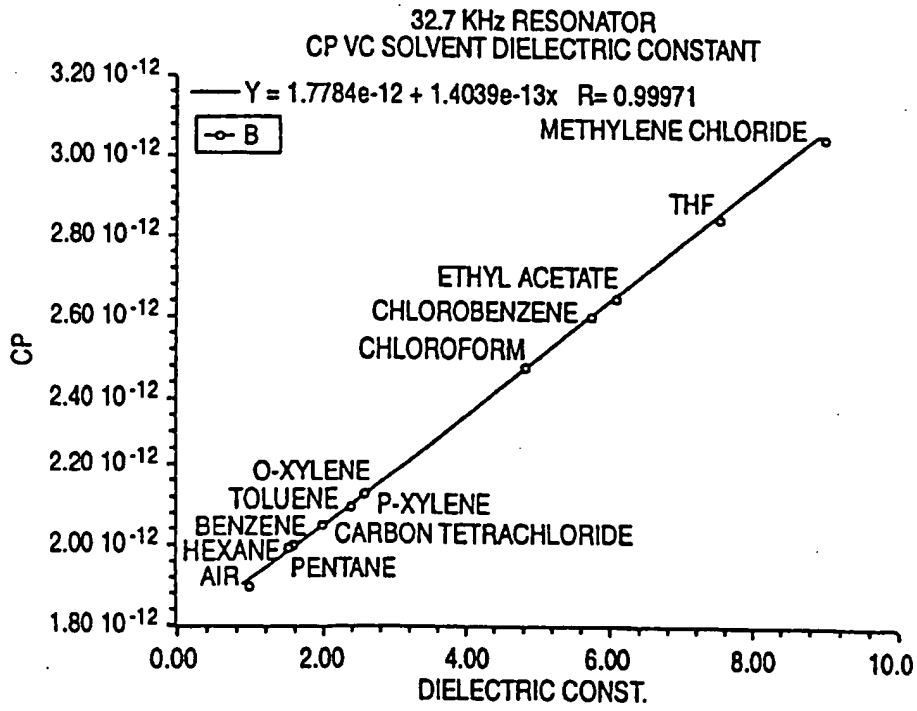


FIG 14b

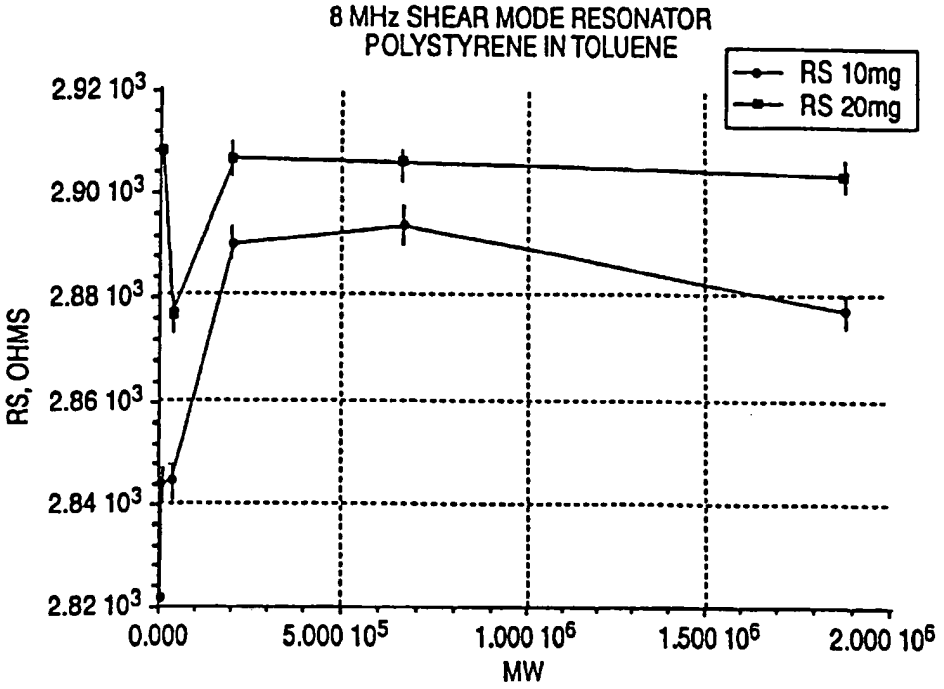


FIG 15a

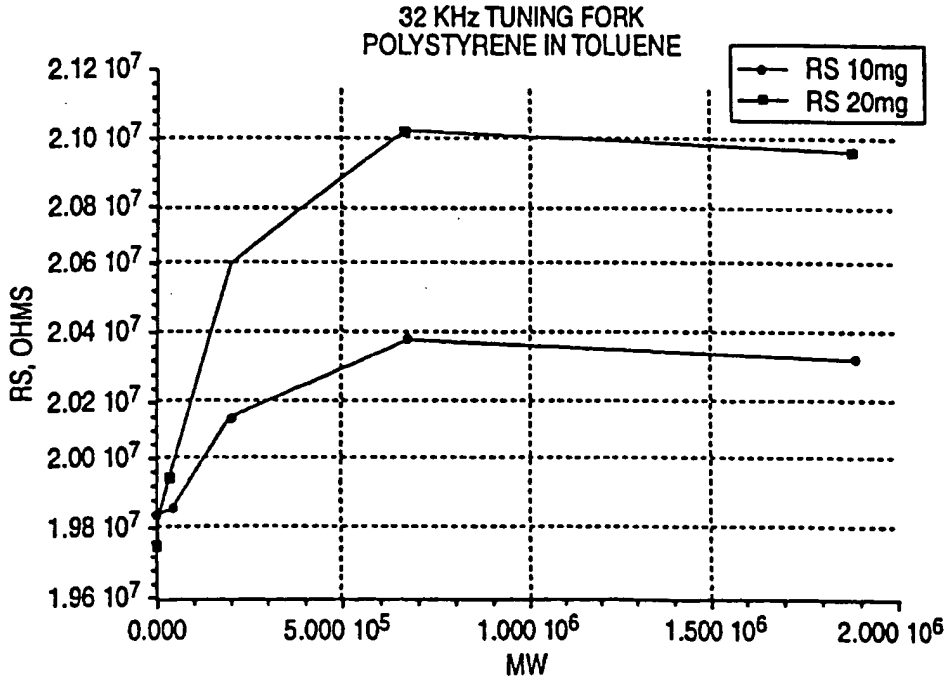


FIG 15b

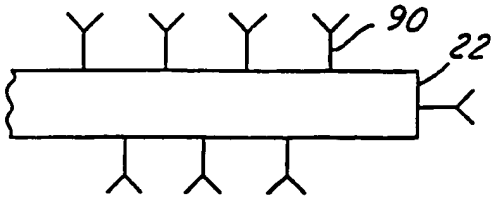


FIG 16a

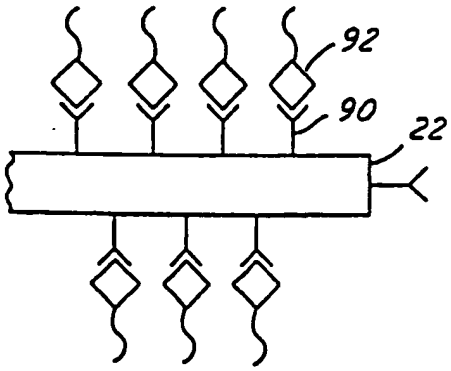


FIG 16b

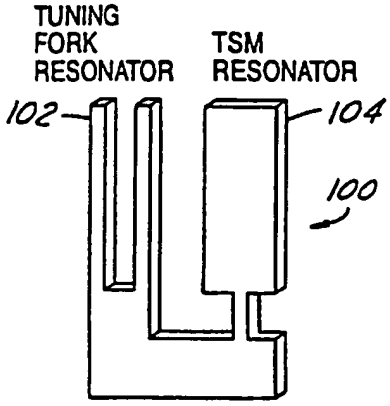


FIG 17a

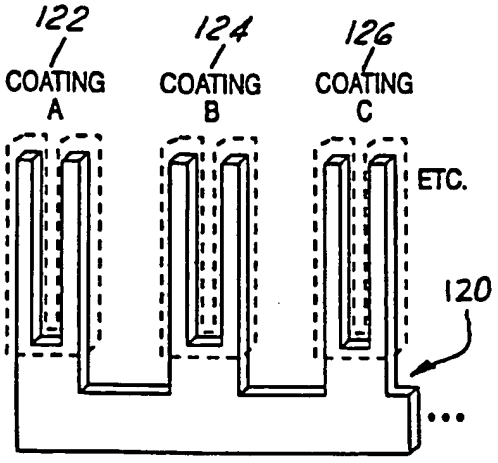


FIG 17c

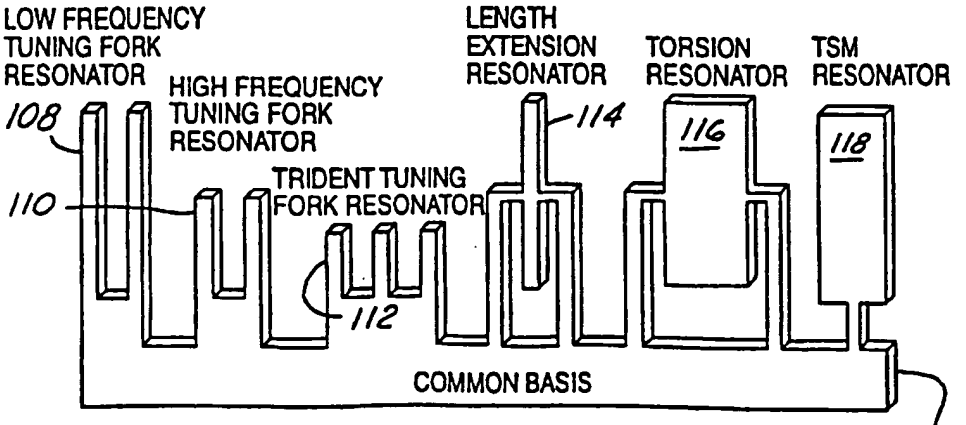


FIG 17b